NIDA Resource Center for Health Services Research

DRUG ABUSE TREATMENT NEEDS ASSESSMENT METHODOLOGIES

A Review of the Literature

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Hyperlinks to sections within this text:

Definition and Application to Drug Abuse Treatment Programming

Needs assessment is a practice used to understand the nature and extent of a health or social problem in a community where there is the intent to ameliorate or otherwise respond to that problem. The findings from a needs assessment are used to inform decisions regarding policy, program, budget, or all three. Needs assessment strategies are grounded in research and therefore permit planning, programming, and the expenditure of resources to be guided by data rather than subjective judgments or political considerations.

Needs assessment is also the term given to strategies used to clarify the issues to be addressed in the treatment of individuals and relates specifically to the process of determining individual needs and functioning at intake into treatment. For the purposes of this report, however, attention will be focused on needs assessment undertaken by and for the community in regard to drug abuse treatment. In that spirit, the strategies described will be those employed to clarify the direction and urgency of drug abuse treatment nationally and within a community.

With particular regard to drug abuse treatment, needs assessment strategies examine how well or how poorly the current service delivery system is providing for the treatment needs of the community. Typically, the questions asked are concerned with understanding whether the existing drug treatment programs meet community needs in terms of the numbers and types of clients being served.

The specific questions for needs assessment regarding treatment may include the following: Are drug abuse treatment programs seeing a significant proportion of drug users in the community? Are drug abuse treatment programs seeing clients that reflect the drug-using characteristics of the community? Are programs seeing the particular kinds of drug users (e.g., opiate users) of concern to the community?

Because needs assessment is designed to fulfill a community concern (e.g., whether resources committed to drug treatment are adequate), the community should be involved in setting the

parameters of study. The involvement of community members in formulating the questions to be explored can forestall any risk that community interests and concerns are poorly addressed. Indeed, the involvement of persons responsible for authorizing a community needs assessment in planning and conducting the study not only prevents later misunderstanding, but also encourages cooperation from all segments of the community in conducting the assessment and increases the likelihood of the ultimate utility of the findings (Boyer & Langbein, 1991).

Other issues may require clarification prior to the initiation of a needs assessment in a community. It must be made clear from the outset that a needs assessment study is not an efficacy study. In the case of needs assessment regarding drug abuse treatment, community members will learn about the effectiveness of their treatment program or programs in *accessing* drug users in the community; they will not learn about the effectiveness of those programs in modifying the negative behaviors of the clients treated. Nonetheless, as suggested by Kimmel (1992), the more effective the community's treatment programs, the more useful will be the community's needs assessment. Indeed, conducting a needs assessment can be viewed as an expression of confidence regarding the effectiveness of the community's treatment programs.

It should be established whether the needs assessment regarding drug abuse treatment is concerned narrowly with treatment demand or more broadly with treatment need. Treatment need exceeds demand (i.e., the number of persons who can be seen as having a need for drug abuse treatment is greater than the number who make themselves available to treatment). Typically, the community is concerned with understanding treatment need (i.e., understanding the potential requirement for services) as well as treatment demand (i.e., the immediate need for services) (McAuliffe et al., 1994).

In this regard, it is important to adopt definitions of treatment need and treatment demand prior to undertaking the needs assessment. *Treatment demand* is defined as all persons seeking treatment or referred to treatment over a selected time frame. Treatment demand embraces all those admitted to treatment and all those requesting or referred to treatment for whom treatment is unavailable. The latter would include all those on waiting lists, refused admission, and dropping out after making application. *Treatment need* is defined as all drug users included under the definition of treatment demand and also those in the community who can benefit from or require drug treatment. Determination of the numbers of community members who benefit from or require treatment may be based on the application of diagnostic criteria, such as the *Diagnostic and Statistical Manual of Mental Disorders* (DSM) (Regier et al., 1988); the application of a drug use index comprising frequency, dependence, and one or more functional problems (Gerstein & Harwood, 1990); the use of an index of frequency and recency of drug use (Brown, Rose, Weddington, & Jaffe, 1989); or the measurement of gaps in the use of treatment services comparing treatment clients with drug users identified in other community agencies (e.g., health care or criminal justice settings).

The definition of treatment need employed has implications for the assessment strategy adopted. Where treatment need is defined in terms of diagnostic criteria or through application of drug use indices, the assessment strategy likely will require a community survey employing probability sampling. Where treatment need is defined in terms of differences between treatment clients and drug users seen in other community settings, the assessment strategy likely will require surveys conducted in agencies chosen for their significance in serving drug users and will probably employ nonprobability sampling. It is noteworthy that although DSM criteria are generally viewed as providing the most carefully developed and widely respected measure of treatment need, only two states rely on DSM criteria in determining treatment need (Minugh, n.d.). This likely reflects less a dissatisfaction with those criteria than insufficient resources to undertake the assessment strategy that the definition implies.

It is important to emphasize that conducting a needs assessment carries with it the implication that the needs identified will be addressed through increased or modified treatment programming. The identification of problems in the absence of intent or capacity to resolve those problems can be little other than demoralizing to the community. The response to the community's identified needs will likely demand the commitment of people, time, and dollars. In this regard, the individuals responsible for addressing identified needs should be known, and either the resources for responding to identified needs or a plan for acquiring those resources should be available. In some instances, additional resources may be unnecessary or minimal; treatment programs may be addressing community needs adequately, or the needs assessment may show that only minor adjustments are required to address identified problems. For example, a treatment program may be inaccessible to some portion of the potential client population because of its location or its hours of operation—problems that may be remedied with relatively modest expenditures. However, other identified needs, such as the underrepresentation of significant parts of the drug-using population, are more likely to require significant resources for their resolution.

To be useful, the needs assessment must be conducted in a timely manner. The problem to be addressed is likely urgent, and as such, the community is primed to take action on the basis of an increased knowledge base. The needs assessment should be conducted with the sense of urgency felt by the community, bounded only by concerns about the rigor of the study being conducted and the accuracy of its findings.

Finally, it is desirable, and perhaps essential, to replicate the needs assessment in succeeding time periods. Thus, there may be a concern with determining the extent to which correctives developed to respond to needs assessment findings are effective in reducing the problems identified. Repeated needs assessments also are used to clarify the changing nature of community needs, for example, to clarify changes in the drug-using behaviors of community residents. It is important to have current information about drugs in use and the characteristics of drug users.

Overview and Conceptual Framework

In sum, needs assessment identifies the numbers and characteristics of the population requiring services (i.e., immediately seeking or having a capacity to benefit from services). In this regard, needs assessment is a critical aspect of community planning, clarifying the needs of community residents on the one hand and permitting informed decision making with regard to the allotment of resources in meeting those needs on the other. The term *need* in this context refers to the capacity to derive benefit from treatment services. However, a distinction between *demand* and *need* can be made in association with the urgency with which those services are required. With drug abuse treatment, the distinction between need and demand is typically made in terms of individuals receiving, requesting, or referred to treatment (demand) and individuals whose use of drugs creates problems for them and their communities (need). Note that estimates of *need* may include *demand* within them.

As depicted in Table 1, and as described below, the data-gathering strategies for achieving estimates of need and demand involve a mix of direct measures (i.e., population surveys employing probability sampling), indirect measures (i.e., assessments based on the impact of drug use and drug users on health, social service, and criminal justice systems), and ethnographic study (i.e., information based on observation and/or description derived from individuals experiencing the phenomena at issue).

Within drug abuse treatment, the development of population estimates of treatment demand has been viewed as a comparatively easy task. That is, treatment demand can be reasonably constructed from the compilation of clients in treatment, clients awaiting treatment, and clients referred for

treatment. All of these are known or readily accessible figures. Estimates of treatment need are dependent on data that are typically far less accessible**.** The several data resources shown in Table 1 and reviewed in this paper assess both different and overlapping parts of the population. To characterize the size of the population typically requires the use of estimation models in conjunction with the data gathered. Estimation models have long been in use in drug treatment planning, chiefly for understanding numbers of "hard core" drug users (i.e., heroin and cocaine users) (Person, Retka, & Woodward, 1977). While having their ultimate utility as the basis for estimates of need and demand, the data collection strategies shown also are used to monitor change in the rates and characteristics of the drug-using population over time and to characterize the significance of drug use for different service systems.

Although much needs assessment activity involves estimating the size and clarifying the nature of drug-using and risk populations, a second area of concern involves describing the nature and extent of services required to respond to the need or demand identified. To determine the size and character of that response obviously calls for a description of the size and character of the population to be served, but it also calls for a description of services available in the community. This suggests an assessment of the nature and quantity of services currently being provided, the extent to which available services are and are not being accessed, and, where essential services are not being accessed, the impediments to their use. The will and capacity of the community to provide resources also may need to be assessed. The frequent unwillingness of communities to establish new treatment settings may have its counterpart in an unwillingness to make available services or new dollars.

TABLE 1

Needs Assessment Data Collection Strategies

TREATMENT		
Measures	**Demand**	**Need**
Direct		
Population Surveys		X
Indirect		
Indicator Data		
Health Care	X	X

Criminal Justice	X	X
Social Service		X
Work Site		X
Community Experts	X	X
Ethnographic		
Observation		X
Key Informants		X
Focus Groups		X

Structure of Paper

This paper is most concerned with reviewing the strategies employed to conduct drug abuse treatment needs assessment in the community. The strategies described are drawn largely from the field of epidemiology and include survey techniques as well as field studies and ethnographic investigation. The paper explores the strengths and weaknesses of each strategy described, issues of cost, and implementation. Estimation models, which make use of the data gathered through these strategies, also are described.

Because needs assessment strategies vary in their validity and in the expense associated with their conduct, communities may find themselves making difficult choices between more elaborate, rigorous, and expensive data-gathering strategies on the one hand and approaches that are more restricted in their coverage on the other. The latter are more likely to raise questions regarding credibility, while being more feasible in terms of cost. In all situations, but particularly in those using less rigorous techniques, it is important that investigators interpret their data with caution. The findings should not be overinterpreted lest the investigators undermine the credibility of their work. At the same time, findings from limited, carefully conducted investigations can be used to provide clarification regarding drug abuse problems and programming needs in a community. Budgets are finite, and most communities will be in the position of purchasing the best needs assessment available to them with the limited dollars at their disposal. In that spirit, it is important that any discussion of needs assessment realistically addresses issues of cost and benefit associated with the range of

strategies available.

Any understanding of community needs is incomplete without an understanding of the resources a community has available to address identified problems. Consequently, the paper explores strategies for assessing community resources—current and potential—that can address the identified programming needs.

In addition, the paper examines strategies for communicating findings from needs assessment to community members to promote their greater utility by the community. If the needs assessment report is to be broadly useful, its communication to the community must be carefully planned and implemented.

Needs Assessment Strategies: Survey Strategies

Household Surveys Making Use of Probability Sampling

General population surveys are widely regarded as "among the most common and reliable methods of obtaining useable data for a needs assessment" (United Way of America, 1982). The population survey employing probability sampling permits the selection of subjects who can be seen as statistically representative of the study population. Thus, the sampling strategy permits every individual in the population of interest to be available to the survey. In that sense, it permits the unbiased selection of individuals and the unbiased canvasing of needs. If the interview or questionnaire used to assess needs is found to measure needs consistently over periods during which no change would be expected (i.e., is reliable) and accurately reflects the behaviors or attitudes of respondents (i.e., is valid), the resulting survey can be seen as providing a powerful tool for needs assessment. Indeed, population surveys employing probability sampling have been the backbone of the national effort to conduct needs assessment.

In 1970, the Commission on Marihuana and Drug Abuse was created by Congress to advise the executive and legislative branches regarding policy and action in the area of drug abuse. In 1971, the Commission undertook the Nationwide Study of Beliefs, Information and Experiences to clarify American thinking and behaviors about marijuana use. That first survey eventually led to the current National Household Survey on Drug Abuse (NHS). Today, the NHS is stratified (e.g., for age and ethnicity), employs area probability sampling of persons aged 12 and older living in U.S. households, and oversamples individuals between the ages of 18 and 34 (Turner, Lessler, & Gfroerer, 1992). The data collection strategy involves the use of a structured, closed-ended, face-to-face interview in which the respondent is guaranteed confidentiality and anonymity. Self-administered answer sheets are completed by the respondent for several sensitive questions (National Institute on Drug Abuse [NIDA], 1991a; Substance Abuse and Mental Health Services Administration [SAMHSA], 1995). Surveys have been conducted under NIDA and now SAMHSA sponsorship since 1974 at intervals of 1 to 3 years, permitting a monitoring of trends in drug use for the past 20 years. In addition, the NHS survey strategy was recently applied to a study of drug use in the District of Columbia (NIDA, 1994a).

The Epidemiological Catchment Area (ECA) survey also was influential. The ECA sampled respondents in five communities between 1980 and 1984 to determine rates of depressive disorders, anxiety disorders, drug abuse/dependence, and alcohol abuse/dependence in the general population. The ECA used face-to-face interviews but employed DSM-III criteria to define respondent status and,

by extension, to define community treatment need (Regier et al., 1988). The study revealed unexpectedly high rates of psychological disorder in the general population and underscored the importance of the relationship between substance abuse/dependence and psychological disorders.

Well-conducted probability surveys of the population at risk afford the clearest guarantee of obtaining samples that accurately reflect the larger population from which they are drawn, again assuming measures are valid and reliable. In sampling from households, there is the potential for making the population of concern virtually everyone in the community, or in the case of the NHS, virtually everyone in the country.

The disadvantages of probability sampling relate primarily, but not exclusively, to cost. Kimmel (1992) notes that the cost of conducting a statewide survey with a large enough sample to permit analysis by region would require nearly $3 million. As discussed below, McAuliffe and his colleagues (1994) have designed a telephone survey to reduce cost by eliminating the need for face-to-face interviewing.

The use of a household survey can have limitations beyond cost for understanding treatment need. The respondents reached through a household survey constitute a comparatively stable portion of the population and, therefore, are likely to provide a biased picture of treatment need. That is, those in need of drug abuse treatment are more likely than others to live outside stable households (e.g., in college dorms, on city streets or in shelters, in mental health or penal settings) and, therefore, risk being unrepresented in a survey restricted to households. Moreover, one can posit that the more likely that a drug is associated with a particular subgroup (e.g., "ecstasy" with college students) or lies outside mainstream experience (e.g., heroin), the less likely it is to be reported by respondents in a household survey. Understanding the rates of use and the characteristics of the users of those drugs is significant to treatment planning. Thus, in assessing treatment need, surveys of households need to be augmented by studies of selected risk populations. Indeed, in 1991, the sampling frame for the NHS was broadened to include homeless shelters, military bases (civilians only), college dorms, and other nonhousehold settings.

In addition to the necessity of sampling all relevant parts of the population, there is a need to make certain that the instruments and procedures used to gather data guard against error. As described by Gfroerer, Gustin, and Turner (1992), two kinds of error are a particular concern with assessments of drug use and treatment need. On the one hand, the respondent may make cognitive errors reflecting lack of understanding or capacity to follow the interview or questionnaire demands, or reflecting deficiencies in memory. On the other, the respondent may be inclined to give socially desirable responses to questions that are designed to tap sensitive areas of behavior. As reported below, a variety of strategies have been developed to reduce ambiguity and misunderstanding regarding interview or questionnaire items and to reduce undue demands on memory. Similarly, self-administered answer sheets have been incorporated into interview schedules, which, together with guarantees of confidentiality and anonymity, have been used to reduce the risk of respondents giving socially desirable responses. Finally, completed surveys are subject to quality-control procedures to make certain that client responses are consistent across items tapping comparable behaviors and issues.

Surveys of Targeted Populations

Surveys have been conducted of various groups within the larger population that are of particular concern to drug abuse programming. Groups such as school dropouts and delinquents have been chosen for their especial significance for prevention programming and groups such as homeless and criminally involved adults have been seen as having an especial significance for treatment

programming. The surveys have made use of probability-sampling strategies for high school and military populations, and nonprobability sampling for those other populations whose numbers and characteristics are unknown, making probability sampling impossible.

The Monitoring the Future study, or the National High School Senior Survey as it is frequently known, has been conducted annually since 1974 under NIDA sponsorship. The study involves stratification (by size, geographic region, urbanicity, etc.) of schools and a multistage process to obtain a probability sample of high school students. Written questionnaires, rather than face-to-face interviews, are administered as a part of routine school activity (Johnston, O'Malley, & Bachman, 1989, 1995). Like the NHS, the Monitoring the Future study affords an opportunity to monitor trends in drug use for an identified population over an extended period. Whereas the identified population for the NHS includes all those living in households, the identified population for the Monitoring the Future study are the members of a restricted age group.

In addition to student populations, surveys have been undertaken of military personnel (Bray et al., 1983, 1986; Burt & Biegel, 1980) and of offenders incarcerated in state facilities (Innes, 1988).

Surveys Using Nonprobability Sampling

Surveys focusing on populations less accessible than households, high school students, armed forces personnel, or prisoners have used nonprobability sampling strategies. Populations have included homeless persons, runaway youth (who can be seen as part of the homeless population), school dropouts, and the users of public health, mental health, criminal justice, and social service agencies. In addition, out-of-treatment drug users (i.e., drug users located in street settings) have been sampled to understand their drug-using and risk-taking behaviors relative to the human immunodeficiency virus (HIV).

These surveys require (a) a definition of the population in question; (b) a sampling strategy that guards against bias in the selection of respondents; and (c) the use of an instrument that guards against error in self-reported behaviors and other areas of inquiry.

In terms of study design, it is important that the sample drawn meets criteria that accurately describe the population of concern. For example, describing a population as homeless requires a definition in terms of some minimal period of time living on the streets or in shelters. The definition chosen will set the parameters for the population and allow the cautious generalization of findings.

The size and characteristics of these populations are not sufficiently well known to permit probability sampling; consequently, the investigator is under an obligation to do everything feasible to ensure that the sample drawn reflects the population in question adequately; that is, the sample contains no known biases. Thus, a sample of homeless persons would not be drawn solely from a shelter population, but would include the streets, soup kitchens, day-care facilities, and so on. Ideally, respondents would be obtained from these different settings in proportion to the use made of them by the homeless. An additional strategy employed in nonprobability surveys has been a use of targeted sampling (Watters & Biernacki, 1989) in which the investigators assess the characteristics of the population being sampled (e.g., gender and ethnicity in out-of-treatment drug users in a community) and correct the sample as it is being drawn to reflect those characteristics. It is also apparent that in nonprobability surveys, it is particularly urgent to keep refusals to be interviewed to a minimum and to avoid biasing the sample in the direction of those respondents most likely to volunteer for study (e.g., those most in need of the compensation typically offered to subjects).

As with probability sampling, it is important to ensure that the measure employed makes use of a vocabulary and format that is comprehensible to the target population and asks sensitive questions in a

manner that permits honest responses. Again, it is crucial to guarantee each respondent's confidentiality and anonymity.

A review of surveys of homeless populations has been reported by Dennis (1991), a review of surveys of homeless women by Smith and North (1992), and the report of a comprehensive survey of the homeless population in Washington, DC, by NIDA (1993). A review of studies of adolescent runaways is available from Farber (1987), and studies of out-of-treatment populations are available from NIDA (1994b) and Brown and Beschner (1993).

Issues in Survey Methodology

A number of innovative strategies have been employed in conjunction with drug use surveys in an effort to reduce inaccuracies associated with cognition and social desirability, and in an effort to reduce cost. Anchoring interviewees' responses to time frames made relevant through the recall of personal experience was useful in reducing response error (Hubbard, 1992). In anchoring, individuals volunteer events for those time frames about which they will be queried regarding drug use or other behaviors. Individuals then can use those events to anchor in time their responses.

Self-administered questionnaires, permitting privacy in responding to sensitive questions, appear to reduce the influence of social desirability on reporting. Thus, Turner, Lessler, and Devore (1992) found greater reporting of drug use when respondents were permitted to use self-administered questionnaires than when respondents answered face-to-face queries.

Concerns about cost have led to experimentation with telephone surveys as an alternative to face-to-face studies. In a review of studies of "private" behaviors including but not restricted to drug use, Gfroerer and Hughes (1992) report that face-to-face interviewing is generally associated with the reporting of greater drug use, and of lower income and education. Studies by Aquilino (1992), Aquilino and LoSciuto (1989), and LoSciuto, Aquilino, and Licari (1993) found lower rates of self-reported drug use by African American respondents in telephone as compared to face-to-face interviews; Johnson, Hougland, and Clayton (1989) found lower rates of self-reported drug use for university respondents in telephone as compared to face-to-face interviewing. On the other hand, McAuliffe and his colleagues (1987) have argued that a study of Rhode Island respondents to a telephone drug use survey did not suggest inaccuracy in reporting. Although they acknowledge lower estimates of drug use in the studies initiated to date comparing telephone to face-to-face interviewing, McAuliffe and colleagues (1994) assert that the differences are insignificant in relation to estimates of prevalence; may be nonexistent in relation to rates of heavy use or dependency, which can be particularly crucial to treatment planning; and may be further reduced through the refinements to telephone interviewing suggested in their manual.

State planning offices have applied survey data from national samples to their own local situations (Minugh, n.d.). Through this practice, unwarranted assumptions may be made about the comparability of national to local circumstances. Thus, even if efforts are made to correct for differences in demographic characteristics, differences in community variables (e.g., drug availability, drug potency, police activity, population density) may nonetheless make the application of national findings inappropriate. Issues in extrapolating from available data sets to local communities are explored further in the section "Strategies for Estimating Drug Use."

Needs Assessment Strategies: Problem-Oriented Measures of Drug Use

A number of strategies explore the impact of drug use on the health, criminal justice, and social service agencies in a community. These strategies are, therefore, described as using indicator data or indirect measures (Kimmel, 1992). In these initiatives, as is typically the case with survey strategies, an effort is made to monitor drug use over time. However, whereas surveys are concerned with obtaining representative or unbiased samples, studies using problem-oriented measures are typically restricted in their capacity to conduct equally rigorous study. Nonetheless, Weisner and Schmidt (1995) make a particularly compelling argument for the need to explore the impact of drug abuse on a wide range of community agencies. In their study of client populations admitted to health, social service, and criminal justice agencies, they found that drug abuse treatment captures a small percentage of the weekly or more frequent drug users seen by the several service agencies operating in a community. Moreover, only a minority of drug users seen in one system (e.g., criminal justice) may have been in contact with the drug abuse treatment system within the preceding year or, in other study, within their lifetimes (Tyon, 1988).

Drug Use Data from the Health Care System

Drug abuse is a health care issue that both directly and indirectly affects a number of areas of health care delivery. Drug abuse is associated with infectious diseases (e.g., tuberculosis, sexually transmitted disease, hepatitis B and C, and AIDS), with psychological and alcohol problems, and with adverse reactions such as overdoses. The assessment of these consequences and concomitants of drug use can be used to understand the populations negatively affected by drug use, to determine the types of drugs responsible for creating specific health care problems in a community (Gfroerer, 1991; Kimmel, 1992), and to provide a basis for monitoring the changing nature of drug use in a community (Gerstein & Harwood, 1990). Those problem indicators can be used to clarify and monitor at least some aspects of a community’s needs regarding drug abuse treatment.

Data collected at hospital emergency rooms and medical examiners' offices have been used to determine the extent to which drug use is associated with medical emergencies and deaths. The data collection strategies developed by federal authorities have been modified a number of times since their introduction in 1972 and currently involve the use of a nationwide sample of programs chosen from a mix of metropolitan (cities and surrounding areas) and nonmetropolitan areas. In the federally maintained Drug Abuse Warning Network (DAWN), data are collected from more than 500 hospitals (emergency rooms) in 21 metropolitan areas and additional nonmetropolitan areas, and from 135 medical examiners' offices in 27 metropolitan areas and additional nonmetropolitan areas. Brief forms have been developed to record demographic characteristics, drugs used, and routes of drug administration. For emergency room clients, sources of substances, reasons for the use of the substances reported, and reasons for emergency room admission are recorded. For medical examiner cases, cause and manner of death are recorded. All emergency room admissions and all medical examiner cases are included, provided they show evidence of either a medically inappropriate use of prescription or over-the-counter drugs or a use of illicit substances. The data are used to characterize metropolitan areas and, through repeated administration, to report trends within those areas and nationally (NIDA, 1991b, 1991c). The data may be reported annually, as in the reports cited above, or may be reported quarterly. The latter is particularly useful in analyzing trends in drug use, as reflected in drug-involved medical emergencies, for a consistent panel of emergency rooms and medical examiners' offices (NIDA, 1990).

The methodology developed to assess and monitor drug use in the health care system on a national level is, of course, available to local jurisdictions as well. The resources required are significantly less than those required for surveys; however, such an effort needs the commitment of staff to perform data collection and entry and to carry out analysis. In addition, it is imperative that quality-control

procedures are in place to guarantee the integrity of data collected. Savings may be realized through a use of time sampling strategies as long as the times at which data are gathered are chosen without bias.

Assessment of drug use involving the health care system or other indicator data cannot provide the estimates of incidence and prevalence available through use of population surveys employing probability sampling. Such assessment can, however, be used to clarify selected issues regarding drug use and treatment need in a community. Specifically, we can determine the drugs creating a problem for individuals in a community, as well as the nature of individuals experiencing difficulties in association with the nonmedical use of drugs. Through the regular collection of that data, we also can establish trends in the nature of drugs abused and the characteristics of abusers. That information then can be used to understand the responsiveness, or lack of responsiveness, of the community's drug treatment system.

Because the data collected are from one segment of the community service delivery system (i.e., from the health care system)—and indeed from one segment of the health care system—they must be interpreted cautiously. That is, they clarify community drug problems and drug users affecting a significant, although limited, portion of the community service systems. The value of indicator data can be enhanced by gathering additional data from other segments of the community (i.e., regarding other indicators) to clarify the nature of the drug use and the drug users seen in other parts of the community service systems.

Within the health care system, data also can be gathered from those agencies providing treatment for sexually transmitted diseases (STDs), hepatitis, tuberculosis, and acquired immunodeficiency syndrome (AIDS). All are diseases of obvious significance to the community, and all are diseases to which drug users are particularly vulnerable. A concern with all, except perhaps STDs, is that they are weighted toward an emphasis on injection drug users. Nonetheless, as long as that emphasis is understood, the monitoring of clients of these systems can add significant information regarding both the nature of drug users of particular concern to the community and trends in their numbers, characteristics, and the association between drug use and infectious disease. In addition, agencies serving pregnant women and infants may provide useful data regarding women in the community.

Monitoring the mental health and alcoholism treatment systems provides an opportunity to assess drug use and drug users from a population that may be expected to differ significantly from those found in facilities treating infectious disease, since mental health and alcoholism programs are more likely to see noninjection drug users. Moreover, the ongoing concern regarding psychiatric comorbidity makes it apparent that these populations have, and will continue to have, significance for an understanding of drug use and drug users in a community (McLellan, 1991).

A final element of the health care system that requires study and monitoring is drug abuse treatment. The evaluation of applicants and referrals to community drug abuse treatment programs is important to assessing treatment need on several levels. As noted above, this population can be used to describe treatment demand (i.e., the extent to which treatment is being requested in a community). The extent to which treatment is sought or individuals are referred to treatment is, in many respects, the clearest indication of treatment need in a community. The extent to which a community is unable to meet the demand being placed on it (i.e., must maintain waiting lists or reject applicants) provides the clearest expression of a community’s immediate treatment services need. In addition, a review of applicants and referrals over time can identify emerging populations of concern and suggest service needs associated with those changing populations. Obviously, the monitoring of trends in the treatment population over an extended period increases accuracy in reporting changes in the treatment population and confidence in determining the programming and services needed. By tracking

applicants and referrals, several state drug abuse authorities identified a need for expanded services and resources to serve youthful and female clients, whereas others placed an increased emphasis on homeless, comorbid, and HIV-infected clients (NIDA & NIAAA, 1992).

Ideally, efforts to understand the effectiveness of drug abuse treatment programming will go hand-in-hand with monitoring trends in treatment populations. Thus, program effectiveness in meeting the needs of the changing treatment population can be studied. The appearance of a greater number of clients showing a particular characteristic (e.g., referrals from the criminal justice system) does not in itself determine the need for additional or modified services. A treatment program offering a comprehensive array of services may be meeting the needs of those clients. In general, it is useful, if not essential, to combine the monitoring of treatment populations with program evaluation to make an informed judgment regarding the need for additional treatment services.

Monitoring treatment applicants and referrals requires the use of a careful intake instrument, or battery of instruments, to clarify issues of respondents' functioning and backgrounds, as those may be significant to program planning for the individual and the community. A variety of measures have been developed or borrowed from other fields for use during intake to drug abuse treatment. These are described in detail elsewhere (Inciardi, 1994; McLellan & Dembo, 1993; NIDA, 1994b, 1994c).

Most important, perhaps, the characteristics and behaviors of those referring themselves or being referred to drug abuse treatment can be compared to the characteristics and behaviors of drug users identified in other community service programs to clarify how effectively treatment programs are meeting community concerns. Differences in types of drug use, and in other drug-user characteristics, between treatment applicants or referrals and drug users in other systems can help to identify populations underrepresented in the treatment community and can suggest associated service needs. Again, it should be emphasized that an understanding of treatment need based on a comparison of drug abuse treatment applicants and referrals to entrants into other community service agencies is strengthened by the use of as large a number of relevant agencies (i.e., data points) as feasible.

Drug Use Data from the Criminal Justice System

The criminal justice system includes a significant number of drug users. The link between drug abuse and criminal activity is well established, and the significance of that linkage for public support of treatment makes it important that the drug users seen in drug abuse treatment reflect closely the users seen in the criminal justice system. Thus, monitoring the characteristics of drug-using arrestees becomes an important procedure for clarifying the effectiveness of drug abuse treatment.

As with entrants into the health care system, strategies have been devised for assessing and monitoring criminal justice clients. The Drug Use Forecasting (DUF) program, initiated in 1988 by the Department of Justice, obtains a structured interview and urine specimen from a sample of adult and juvenile booked arrestees (consecutive admissions) in 24 cities nationwide (not all cities gather data on juveniles). Data are analyzed by demographic characteristics, drugs reported/identified, charges, and so on (National Institute of Justice [NIJ], 1995). Again, as with DAWN health care settings, the use of a consistent instrument and of same sites allows change in drug use to be monitored over time.

As noted, a monitoring of arrestees' drug use is important to treatment needs assessment because that population is particularly significant to community planning. Monitoring arrestee drug use also can be significant to an assessment of treatment demand in that drug-using offenders may be subject to institutional treatment or referral to community treatment services through probation, Treatment Alternatives to Street Crime (TASC), or drug courts. Moreover, there is evidence that drug-using

arrestees differ in drug use patterns from drug users identified in the health care system (NIDA, 1980), and significant numbers of drug users appear in the criminal justice system who have never attended drug abuse treatment (Tyon, 1988), giving further support to the use of multiple data points to clarify the nature of drug use and treatment need in the community.

As with any survey strategy, the accuracy of findings can be compromised by refusals or inaccurate self-reports. The risk of refusals and inaccuracies would seem to be heightened in working with a criminal justice population—particularly a criminal justice population awaiting adjudication (i.e., a population whose drug use could be used against them). Indeed, studies suggest a significant underreporting of drug use by both adult (Mieczkowski, Barzelay, Gropper, & Wish, 1991) and juvenile arrestees (Feucht, Stephens, & Walker, 1994). It is important to clarify that self-report information provided will be treated confidentially and anonymously and to gather biological data where feasible. In fact, the DUF program obtains response rates of greater than 90% of arrestees sampled and obtains urine specimens from more than 80% of those sampled (NIJ, 1995).

In reporting drug use by arrestees, DUF relies on the results of urine testing, thereby increasing accuracy through the use of that biological measure rather than risking the influence of memory or social desirability on self-report. However, the use of urine testing results in a focus on recent drug use only, thus providing a conservative—and incomplete—report of arrestees' drug use. Nonetheless, the significance of this population and the capacity to obtain highly accurate information on its recent drug use at relatively modest expense (the population is literally captured for study) make the monitoring of criminal justice populations an attractive strategy for helping to assess the treatment needs of the community. Hair assay may be used to extend the reporting period (Cone, Yousefnejad, Darwin, & Maguire, 1991; DuPont & Baumgartner, 1995; Mieczkowski, Landress, Newel, & Coletti, 1993; Wang, Cone, & Zacny, 1993; Wang, Darwin, & Cone, 1994), although caution has been urged in association with the potential for environmental contamination (Goldberger, Caplan, Maguire, & Cone, 1991; Wang & Cone, 1995).

In addition to data from arrestees, information regarding drug use in a community may also be obtained through law enforcement activities involving purchases of street drugs, the interdiction of drugs entering a community, and arrests for drug violations. Drug buys can provide data regarding the types of drugs available on the street as well as their strength and purity, thereby helping to identify drugs having implications for treatment. However, it may not be readily apparent whether a given drug buy accurately represents the type and potency of drugs available in a community. Similarly, drugs obtained through interdiction may have high or low claims to being representative of drugs available. In addition, drug arrests require clarification regarding circumstances under which the data have been collected. Arrestee numbers and types may represent normal police activity or may reflect a special concern of the community, such as an effort to "clean up" a particular area, and thereby be atypical of the drug problem in the larger community. Although gathered under far less rigorous conditions than other data described in this section, data from law enforcement can be useful if placed in a context of community events and if used in conjunction with data from other sources.

Drug Use Data from the Social Service System

Data from social service agencies have been far less frequently employed for needs assessment than have data from health care and criminal justice agencies. Among social service agencies, only shelters for homeless individuals and runaway youth have received significant attention as sites for assessing or serving drug users. Awareness and concern about the numbers of drug users in those facilities have accompanied increasing concerns about both psychiatric comorbidity and HIV infection. Large numbers of homeless individuals show evidence of drug use and psychological dysfunction (Task Force on Homelessness and Severe Mental Illness, 1992), while the runaway population is perceived

to be significantly involved in drug use and unprotected sex to obtain drugs and survive on the streets (Pires & Silber, 1991). Surveys of homeless and runaway populations have been undertaken as one-time initiatives to characterize the population in question rather than as part of a monitoring strategy to assess ongoing community need (e.g., NIDA, 1993, regarding homeless persons; Rotheram-Borus & Koopman, 1991, regarding runaway youth).

Other social service settings may be seen as significant to understanding numbers and characteristics of drug users as well as the relationship between a selected community concern (e.g., abuse and neglect cases) and substance abuse. However, in association with both the expense and the imposition on individuals and agency staff, those settings should be selected carefully in terms of their significance for drug abuse and the likelihood of locating individuals not found in other settings from which samples are being drawn.

Drug Use Data from the Work Site

Drug testing in the workplace is now a common practice (DuPont, Griffin, Siskin, Shiraki, & Katze, 1995; Willette, 1986). Urine screens for a range of drugs of concern to employers, as well as to the community, provide still another data source regarding drug use (American Management Association, 1995). Biological data have the advantage of being viewed as more valid than the self-report data available in other assessments and are collected from a segment of the public that is not readily available otherwise. Correlating drug use measures with community problems and negative consequences leads to a sampling from populations that survive largely on the fringes of society. The use of data from job applicants provides information on drug use in the community from a population more likely to have a stake in mainstream life. Additional findings may be available from Employee Assistance Programs (EAPs) or from random urine screens of current employees. Data from job applicants and employees, collected over time, may provide a significant additional perspective on drug use in the community. Again, there is utility in obtaining as many data points as feasible with a view toward understanding the nature of drug use and the characteristics of drug users in order to plan for programming—or modifications to existing programs—that can best serve those needs.

Data from employers for community planning should be obtained without individual identifiers, that is, both anonymously and confidentially. In this initiative, and in all assessments, the investigators have a responsibility to the individual, as well as to the community, and should have structures in place to guarantee the confidentiality and security of all data collected.

Drug Use Data from Community Experts

Important data about drug use can be gathered from community experts such as teachers and school counselors, probation officers, caseworkers in the social service system, administrators of homeless shelters, police, housing authority personnel, and medical practitioners. They can be viewed as "key informants" with regard to different aspects of community functioning (although, as described below, the term *key informants* is frequently used to describe those who are more intimately a part of the drug scene). The program records available through these informants are important for needs assessment. However, the views of community experts are important as well, not only because they are uniquely positioned to describe drug use within their areas of responsibility, but also because they can influence community opinion regarding drug use within those areas. The viewpoints of individuals in positions of significant responsibility have the potential to reverberate through the community.

To gather information, two strategies are often employed. First, individuals can be interviewed using open-ended questions relating to several general themes the interviewer plans to explore with each subject, while providing latitude for the interviewer to pursue issues that appear promising. A

second strategy involves a use of focus groups in which community experts meet as a part of a group in which they are expected to discuss issues the group's leader poses to them in an effort to share ideas and observations and to clarify those issues. The capacity of community experts to clarify trends in the nature and extent of persons being served as well as community treatment services available can have implications for demand as well as need.

Uses of Data from Surveys Employing Probability and Nonprobability Sampling

Although no data collection strategy is perfect, most researchers would agree that surveys employing probability sampling provide the best estimate of drug use in a community. As discussed above, obtaining accurate findings with that strategy requires that all parts of the population of interest be represented in the sample drawn, and that the instrument used is capable of obtaining unbiased responses (i.e., of minimizing the risk of cognitive errors and of errors associated with social desirability). When properly conducted, surveys using probability sampling provide the most accurate measure of treatment need. Survey strategies using nonprobability sampling explore drug use in relation to problems created by, or in association with, that drug use. That is, these strategies measure drug use by individuals who are already experiencing and creating problems in the community. Moreover, by examining changing patterns in drug use for differing populations in a community, investigators and planners may explore for the existence of leading indicators (e.g., of populations whose drug use patterns precede and foretell later use in the community by other groups).

Strategies for Estimating Drug Use

A long-standing concern of needs assessment has been the construction of estimation models that can be used to describe the prevalence of drug use in the general population and in selected subpopulations. Thus, the NHS has been used to generate estimates of drug use prevalence through the application of weights for age, sex, and ethnicity to approximate their representation in the general population while compensating for survey nonresponse on the one hand and undercoverage on the other (NIDA, 1991a, 1991b). In this way the numbers of users of different drugs have been estimated (within certain confidence intervals), and those estimates have been used to understand treatment need and, at times, to judge the success or failure of national drug abuse strategies. Using a comparable estimation strategy, Regier and colleagues (1988) developed population estimates of individuals meeting diagnostic criteria for drug dependence or abuse based on interviews conducted in five metropolitan areas exploring mental health issues.

The Institute of Medicine (IOM) also made use of measures of drug dependence/abuse and applied these to data from the NHS to develop estimates of treatment needs. Specifically, the IOM defined four levels of treatment need (clear, probable, possible, and likely) based on three criteria: (a) frequency of drug use, (b) symptoms of drug dependence, and (c) functional problems attributable to drug use. The IOM applied comparable criteria to data available for criminal justice clients and the homeless to derive population estimates of the numbers of people in household, criminal justice, and homeless populations who could be seen as clearly and probably needing treatment.

In instances in which a particular community is concerned with estimating the rate of drug use but lacks specific data, the community may elect to develop synthetic estimates. As described by Wickens (1993), with synthetic estimates, a calibration population (or populations) for which drug use is known is used to generate information about drug use in the target population for which information regarding drug use is lacking. Synthetic estimates may employ a variable or variables related to drug use, such as rates of drug arrests or of AIDS, which are known for other communities (calibration populations) as well as for the community of concern (target population). The relationship between these variables related to drug use (i.e., ancillary variables) and drug use can then be calculated for the

calibration populations and the resulting linear interpolation applied to the target community. Simeone, Rhodes, and Hunt (1995) propose the use of this model to estimate the number of "hardcore" drug users for cities and describe a strategy for obtaining the needed data and developing estimates.

Alternatively, synthetic estimates may employ data from a calibration population in which rates of drug use can be calculated by demographic characteristics (e.g., gender, ethnicity, socioeconomic status) and extrapolated to a target community for which rates of drug use are not known, but the composition of the community by demographic characteristics is known. In this way, rates of drug use may be developed for subpopulations and for the full population of the target community.

The accuracy of synthetic estimates depends on the comparability of the calibration population to the target population. As described by Wickens (1993), there is a risk that target and calibration communities may differ in ways that compromise accurate estimation. Thus, drug availability, police presence, treatment availability, community attitudes toward drug use, and so on may vary between communities, reducing their comparability. In addition, Kimmel (1992) notes that drug use patterns may vary between communities in ways unrelated to their demography such that amphetamine use may be prevalent in one community and PCP in another despite apparent similarities in population characteristics.

As described by Hser (1993a, 1993b) and Wickens (1993), estimates of the prevalence of drug use in a community also can be undertaken where the frequency of entry into a selected data system (e.g., drug abuse treatment) is known for some portion of the drug-using population— provided that the data are seen as following a Poisson distribution. That is, if the population can be assumed to be homogeneous and rates of entry can be seen as largely constant over time independent of the individual or of extraneous events, an estimate can be made of the portion of the population that has not entered the data system based on the numbers and frequency of entry of those who have, and thereby an estimate can be made of the total population. The result is a truncated Poisson estimate of population size. Homogeneity among population members is a particular concern (Wickens, 1993). Individuals who do not enter into treatment (i.e., the data system) may differ in important ways from those who do, and/or those entering treatment with differing frequencies may differ from each other, leading to an inaccurate estimate of the unobserved portion of the population.

Multiple-capture models for estimating drug use prevalence use findings for individuals who have an opportunity to enter one or more data systems over time (Brecht & Wickens, 1993; Frank, Schmeidler, Johnson, & Lipton, 1978; Wickens, 1993; Woodward, Bonett, & Brecht, 1985). Estimation procedures then involve the calculation of the unknown (i.e., unobserved) portion of the population based on statistical models applied to the observed entries into data systems over time. Again, a Poisson distribution is seen as governing the distribution of drug use cases, and the assumptions underlying the Poisson distribution are seen as operative.

Like the multiple-capture strategy, the Jolly-Sever capture-recapture model has a long history in drug use estimation (Hser, 1993a; Hunt, 1979; Wickens, 1993). Capture-recapture studies are employed when individual drug users entering multiple data systems in a community (e.g., drug abuse treatment and the criminal justice system) can be individually identified and accurately recorded. Individuals "marked" in the drug abuse treatment system can then be "recaptured" if and when they enter the criminal justice system. An estimate of the drug-using population is then calculated using information about the relative sizes of the populations and of their overlaps. Wickens (1993) notes that the capture-recapture model is not a particularly useful strategy given the difficulty in meeting its several assumptions (e.g., the behavior of the individual is unaffected by his or her capture history; individuals in the population behave independently and identically).

As described by Wickens (1993), an additional estimation strategy, the Markov and semi-Markov models, uses a technique in which the rules for transitions between the states a drug user may occupy (e.g., drug abuse treatment and abstinence in the community) are developed to guide estimates of population size. Hser (1993b) used this technique to estimate the number of injection drug users in Los Angeles County. In this estimation strategy, members of the target population are classified into three states: never observed, currently observed, and previously but not currently observed. Probabilities are constructed for rates of transition between states for which observation is available (i.e., a Markov chain is developed). The hidden component can then be calculated through use of the observed components. As with other estimation models, this strategy assumes the independence of observations and the equivalence of the unknown and known parts of the population.

System dynamics models (Homer, 1993; Wickens, 1993) explore prevalence in the context of the system dynamics in which drug use occurs. Thus, as described by Wickens (1993), "an estimate of the prevalence of drug use might be made in the context of a description that includes measures of drug distribution, drug consumption, and the societal response to consumption and use." Four types of variables are involved in constructing the model. *Exogenous variables* involve quantitative data available with regard to drug use (e.g., drug arrests). *Level variables* represent relevant but unavailable data (e.g., numbers of drug users). *Rate variables* describe the rate of change over time of the level variable. *Constants* are quantitative variables that govern the connections between level variables (e.g., constants would be employed to relate change in drug availability to change in drug-user patterns). Formulae are then developed showing rates of change of level as functions of exogenous and level variables and of constants. Wickens (1993) suggests that system dynamics analysis lends itself best to policy analysis.

A policy analysis strategy is also described by Kahan, Rydell, and Setear (1995), in this instance making use of a computer model allowing participants to test the effectiveness and measure the costs of treatment strategies designed to affect rates of heavy and light drug users in a hypothetical community as well as affecting initiation and transitions within drug use. The seminar gaming initiative they describe in association with this computer modeling appears to lend itself to planning initiatives in which data, available from the community sources described above, are used in conjunction with findings from treatment evaluation research. Thus, differing scenarios of community treatment might be tested relative to data appropriate to that community.

Needs Assessment Strategies: Ethnographic Measures

As described by Feldman and Aldrich (1990), ethnographic research involves the study of social phenomena from the viewpoint of the individual experiencing those phenomena. Most typically, the tools of the ethnographer are observation and open-ended questioning of members of the group or culture under observation (i.e., fieldwork involving qualitative rather than quantitative methodology). Ethnographic methods become of especial significance where the population of concern is not readily accessible for more usual survey methods (i.e., can be described as a "hidden population"), or where the functioning of groups, or of individuals within groups, cannot be detailed through quantitative methodology (Lambert, 1990).

A particular case in point is represented by studies involving users of illicit drugs. Individuals engaged in illicit behaviors cannot be sampled in a manner that permits representativeness on the one hand or study of social and commercial interactions in the comparative comfort of a university

laboratory on the other. Researchers enter the drug users' world and seek out individuals and situations that will allow data collection regarding typical events and people without claim to an unattainable representativeness.

The use of key informants is sometimes described as critical to such study (Adler, 1990; Goldstein, Spunt, Miller, & Belluci, 1990). Key informants are a major source of information about the behaviors or events in question and can provide entree to others in the community under study. Thus, the key informant in this instance is a study subject with some standing in the community. Key informants can provide information regarding the nature and functioning of the drug culture and can facilitate the recruitment of additional subjects for study. Working with street-based drug users in this way and through snowball sampling can be important to developing strategies to engage individuals in drug treatment. As one example, a central finding of studies of street-based injection drug users has been that a substantial percentage (over 40%) had never entered drug abuse treatment in spite of long histories of injection drug use (Brown & Needle, 1994). Future studies with key informants or with use of snowball sampling (van Meter, 1990) might explore the impediments to treatment entry for these users.

The use of ethnographic field stations in a community to engage street users systematically could be employed as a strategy to understand the changing nature of street drug use in terms of drugs of choice, user characteristics, and drug use patterns (e.g., transitions from crack or inhaling/smoking heroin to injection of cocaine or heroin, respectively). Systematically gathering street-level information from an unbiased sample of users could provide useful data regarding treatment need and planning. At the same time, individual studies can clarify issues regarding treatment entry and accessibility for the population not using treatment. Ethnographic studies have been viewed as clarifying national trends in drug use (Office of National Drug Control Policy, 1995) as well as trends in individual cities (NIDA, 1992).

The strengths of ethnographic study are readily apparent. Ethnographers go where no man or woman with a clipboard has gone before; they obtain information directly from the population in question (in this case the population of out-of-treatment drug users) who are otherwise inaccessible. (Ethnographic study in the interest of treatment need, like quantitative study, also can be used to address issues of treatment retention or, more specifically, to clarify reasons for early dropout through study of in-treatment and dropout populations.) The information available from out-of-treatment drug users can suggest strategies to make treatment both more accessible and more effective and can be used as an additional source of data for monitoring drug use behaviors in the community.

The weaknesses of ethnographic study are equally apparent. The data collected can never be assumed to represent more than the individuals or locales selected. The interpretation and reporting of that data may be selective in association with the theoretical orientation and beliefs of the ethnographer, although strategies have been developed to provide safeguards regarding the reliability and validity of ethnographic data (Fritz, 1990).

Finally, it must be acknowledged that conducting ethnographic study or mounting ethnographic field stations, although not involving inordinate expense, does involve use of a resource—trained ethnographers knowledgeable about drug abuse issues—that is in short supply.

Assessing Community Resources to Provide Treatment

As reported above, conducting a treatment needs assessment demands an intention to increase or to modify treatment resources in response to study findings. Thus, not only treatment need but also

treatment availability and potential should be assessed. The assessment of treatment services available to drug users involves understanding the capacity of drug abuse treatment programs in the community and the current efforts of other health care and rehabilitative agencies to provide services to a drug-using population. Mental health clinics, criminal justice agencies, area rehabilitative programs, and so on are all significant to drug abuse programming. Thus, as described above, the assessment of community resources can be viewed as having two components. On the one hand, there is study of the community's capacity to make drug abuse treatment available (i.e., to dedicate space, people, and resources to drug abuse clients); on the other, there is study of the community's capacity to provide those services deemed important for the client population. The latter may be provided at the drug treatment site or elsewhere and may include psychiatric treatment, infectious disease treatment, prevention education, prenatal and maternity care, vocational rehabilitation services, outreach, and aftercare. It should be clear at the outset that a community-based treatment needs assessment is unlikely to find that all services needed can be confined to a stand-alone building removed from the life and functioning of the community. In return for community services received, the drug treatment programs should be prepared to provide assistance to community agencies regarding their drug-using clients. In this regard, it should be emphasized that needs assessment, as it relates to drug treatment, can be used to clarify not only whether the numbers and types of drug users in treatment reflect the numbers and drug-user characteristics in the community, but also whether the service needs of drug users are being met by the drug treatment system. To access needed health and social services identified through needs assessment, treatment programs may find it necessary to provide training to staff of those other services as well as cross-training involving their own staffs.

As is apparent from the above discussion, the determination of community resources in terms of services available to drug abuse clients is a matter of both resources (i.e., space, staff, and money) and attitude (i.e., the willingness to provide services to the drug abuse client). The former, at least, can be determined largely by a use of questionnaires, records review, and observation. Care should be taken to sample individuals who are knowledgeable about their agencies and who have significant administrative responsibility in those organizations. Interviewers should represent a broad-based community group rather than the narrow interests of the drug abuse treatment communities.

The assessment of the openness of community service providers to make available services to drug users might be determined in interviews or questionnaires, and may also be addressed in the context of focus groups designed to bring together relevant community members to explore issues in providing services to drug abuse clients. The use of focus groups has several advantages. It can set in motion a process involving not only the elaboration of shared concerns, but the exploration of possible solutions. Where new initiatives are discussed, there is an advantage to their being discussed in a public forum. Thus, the commitment to explore a strategy of change or accommodation is a commitment made publicly.

Finally, it should be apparent that the assessment of treatment resources, like the assessment of treatment need, must be undertaken by a community group or coalition that possesses the will and authority to command cooperation in the assessment process and to provide leadership to the process of systems change and expansion. In short, assessments of community treatment needs and resources are best underwritten by a community group that understands its role to be that of an agent of change, has the authority to act in that role, and awaits the results of those assessments in order to take remedial action on behalf of the community.

Conclusions

Selecting an Assessment Strategy

A needs assessment strategy is determined by the questions being asked, the data sources available, and the resources that exist for making that assessment. When determining community treatment needs, household surveys employing an appropriate definition of drug abuse (e.g., one based in DSM-IV criteria) may provide a best estimate of treatment need, again when supplemented by the use of problem-oriented measures. Where treatment demand is at issue, a narrower range of measures is available.

Surveys employing probability sampling are likely to be the most costly assessment strategies available. Alternatively, surveys involving nonprobability sampling can be employed to explore drug use in the health care, criminal justice, and social service systems. As discussed above, the more data sources (i.e., the more populations for study), the more confidence that can be placed in the trends identified. Comparison can be drawn between the drug-using behaviors and characteristics of these populations and those of the treatment population in general to clarify the extent to which treatment programs are meeting community needs. These studies can be augmented by findings from secondary data sources and from ethnographic studies of out-of-treatment drug users to further clarify issues of treatment access and services needed.

Finally, emphasis should be placed on the importance of testing and refining needs estimation models. Ultimately, the greatest utility of the data collection systems described may come in their capacities to generate reliable estimates of community need.

Reporting the Findings of Needs Assessment Study

The findings from a needs assessment study should be reported in a manner that permits their use to achieve community change. Thus, the findings must be clearly grounded in science (i.e., must possess credibility), but must be stated in a language and format that permits their effective use by a community group or coalition. Additionally, the findings from a needs assessment must be produced in a timely manner. Typically, there is a window of opportunity to produce change in a community that may be tied to political forces, to the timing of budgetary decisions, or to other issues. Consequently, needs assessment is typically science on a timetable.

The sharing of findings is best done through a combination of oral presentation to the community group under whose auspices studies have been conducted and written materials to establish a permanent record and reference source for the community. Both the presentation and the written materials should make substantial use of clearly articulated tables and figures.

Typically, programmatic change is a distant goal of research and often depends on the fortuitous use of findings published or reported by the investigator. In that paradigm, the investigator's responsibility is discharged with the appearance of study findings in the professional literature or at a scientific conference. Needs assessment carries a differing set of responsibilities for the investigative team. In the instance of needs assessment, responsibility can be seen as having been discharged only consequent to the acceptance and understanding of study findings by the community group. The successful outcome of study is not journal publication but the initiation of community change.

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